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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,956	01/21/2004	Steven William Doane	51813/7:1	5971

7590 03/17/2005

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EXAMINER	
TRAN, THAO T	
ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 03/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

LD

Office Action Summary	Application No. 10/762,956	Applicant(s) DOANE ET AL.	
	Examiner Thao T. Tran	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2005.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 20 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-14, 20 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 8, 2005 has been entered.
2. The Affidavit filed March 8, 2005 is also acknowledged.
3. Claims 1-14 and 20 are currently pending in this application. Claim 1 has been amended.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 11-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 11 and 12 depend on claim 12. However, claims 11 and 12 recite a particle size of between about 5 to about 50 mesh and about 8 to about 25 mesh respectively. Whereas claim 10

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recites a particle size of about 200 mesh or less. Since particle size is inversely proportional to the mesh size, the claims are in conflict with each other and scientifically impossible.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 10-12 are indefinite because claims 11-12 recite the sizes of the particles larger than that in claim 10, which is the parent claim. Thus, what is claimed in claim 10 is conflicting with those in claims 11-12, rendering them indefinite. Note: Applicants are reminded that particle size is inversely proportional to the mesh size.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-14 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Fanta et al. (US Pat. 4,134,863) or Jones et al. (US Pat. 4,323,487).

Fanta teaches a highly absorbent graft copolymer and a method of producing, the method comprising graft polymerizing grafting reactants onto starch to form a starch graft copolymer; saponifying the starch graft copolymer; precipitating the starch graft copolymer with ethanol;

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and granulizing (milling) the copolymer. The starch used is flour, meal, cornstarch, or gelatinized starch. The grafting reactants comprise ceric ammonium nitrate as an initiator, acrylonitrile, and acrylic acid. The weight ratio of starch to acrylonitrile is 1:1.5 (40:60) or 1:3 (25:75). The particle size is 20-mesh. (See col. 2, ln. 17-22, 40-41, 56 to col. 3, ln. 12; Example 1).

Jones teaches a starch graft copolymer for use in agricultural applications and a method of making, the method comprising grafting polymerization of acrylonitrile onto starch; saponifying the starch graft copolymer; precipitating the saponified starch graft copolymer with methanol; and granulizing (making powder) the precipitated starch graft copolymer. The starch used is gelatinized or ungelatinized; the catalyst is ceric ammonium nitrate. The starch to polyacrylonitriles molar ratios range from 1:1.5 to 1:9. (See abstract; col. 1, ln. 22-59; col. 2, ln. 46-64). The particles are passed through 30 mesh (see col. 5, ln. 64), significantly overlapping the instantly claimed ranges. Jones further teaches the use of the polymer product in agriculture (mixed with or coated on seeds and roots) (see col. 1, ln. 53-56).

Since Fanta teach milling to make particles of the copolymer (see col. 8, ln. 34-43), which is the same as disclosed in the instant specification, what Fanta teaches would meet the requirement of the newly added limitation in claim 1.

Moreover, with respect to the intended use of the polymer product in claims 1 and 20, it has been within the skill in the art that intended use would have no significant patentable weight.

Response to Arguments

10. Applicant's arguments filed 3/8/2005 have been fully considered but they are not persuasive.

In the Remarks, page 4, paragraph 6, through page 5, paragraph 3, Applicants contend that Fanta does not teach the formation of granules of the graft copolymer, but rather Fanta teaches the formation of films of the graft copolymer. However, as mentioned in the prior Office action and paragraph 9 above, Fanta does teach the formation of granules (particles) as well as of films of the graft copolymer (see col. 7, ln. 51-52; col. 8, ln. 34-42). With respect to the intended use of the product in agriculture, it has been within the skill in the art that intended use of a product would have no significant patentable weight in the process of making.

On page 5, paragraphs 4-5, and page 6, paragraphs 1-2, Applicants contend that Jones only teaches the formation of powder, and not the formation of granules of the graft copolymer. However, Jones does teach the graft copolymer in granular form (see col. 2, ln. 10-17; col. 4, ln. 12). Thus, both Fanta and Jones teach the presently claimed invention.

With respect to Applicants' arguments in the Affidavit that no method of granulization of the copolymer has been taught at the time the application was filed, the examiner would like to again point out that Jones does teach granulization of the copolymer product as shown in col. 2, ln. 10-17 and 34-37). By stating that large granular material is not always feasible, and may be partial, the reference does refer that granulization has been taught in the prior art. Moreover, Jones does teach an improvement of making granules of the graft copolymer (see col. 2, ln. 33-37).

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Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 571-272-1080. The examiner can normally be reached on Monday-Friday, from 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tt
March 14, 2005



**THAO T. TRAN
PATENT EXAMINER**